EU-JAPAN DIGITAL WEEK 2025

31 MARCH - 7 APRIL, 2025

TOKYO, JAPAN

THE EU-JAPAN DIGITAL WEEK IS ORGANISED AS PART OF THE EU-JAPAN DIGITAL PARTNERSHIP

FIWARE’s role in promoting open standards for trusted data exchange platforms

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FIWARE Founation

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About FIWARE

FIWARE vs FIWARE Foundation

FIWARE

Open source framework that allow the management of data from different provenance and data sharing across domains.

The use of FIWARE components enables the development of smart apps and AI solutions.

ASSETS

FIWARE FOUNDATION

Not-for-profit organization to ensure that FIWARE Open Source components are aligned with standards.

As trusted organization, we support the implementation of collaborative Open Source projects

COMMUNITY

Why FIWARE

- Curated Open Source components & reference architectures
  - Easily integrable components to build software platforms
  - Enables fast, cost-effective implementation of:
    - IoT-enabled smart solutions
    - Smart organizations
- Supports Open Innovation Ecosystems (Data Spaces)
  - Providers can offer services to others
  - Organizations can integrate and consume external services
- Community-Driven Standards Leadership
  - Contributes to the creation and evolution of open standards
  - Provides insights on integrating open standards
  - Ensures non-vendor locked, open standards & open source
- Active Role in Global Initiatives
  - FIWARE Community and Foundation engage in standard-setting bodies:
  - W3C, ETSI, TM Forum, IDSA, Gaia-X

FIWARE Community

9
FIWARE
Board of Directors

31
FIWARE Technical
Steering
Committee

5
Key Domains: AgriFood,
Cities, Energy, Industry,
Water

9000+
Developers using
FIWARE technologies

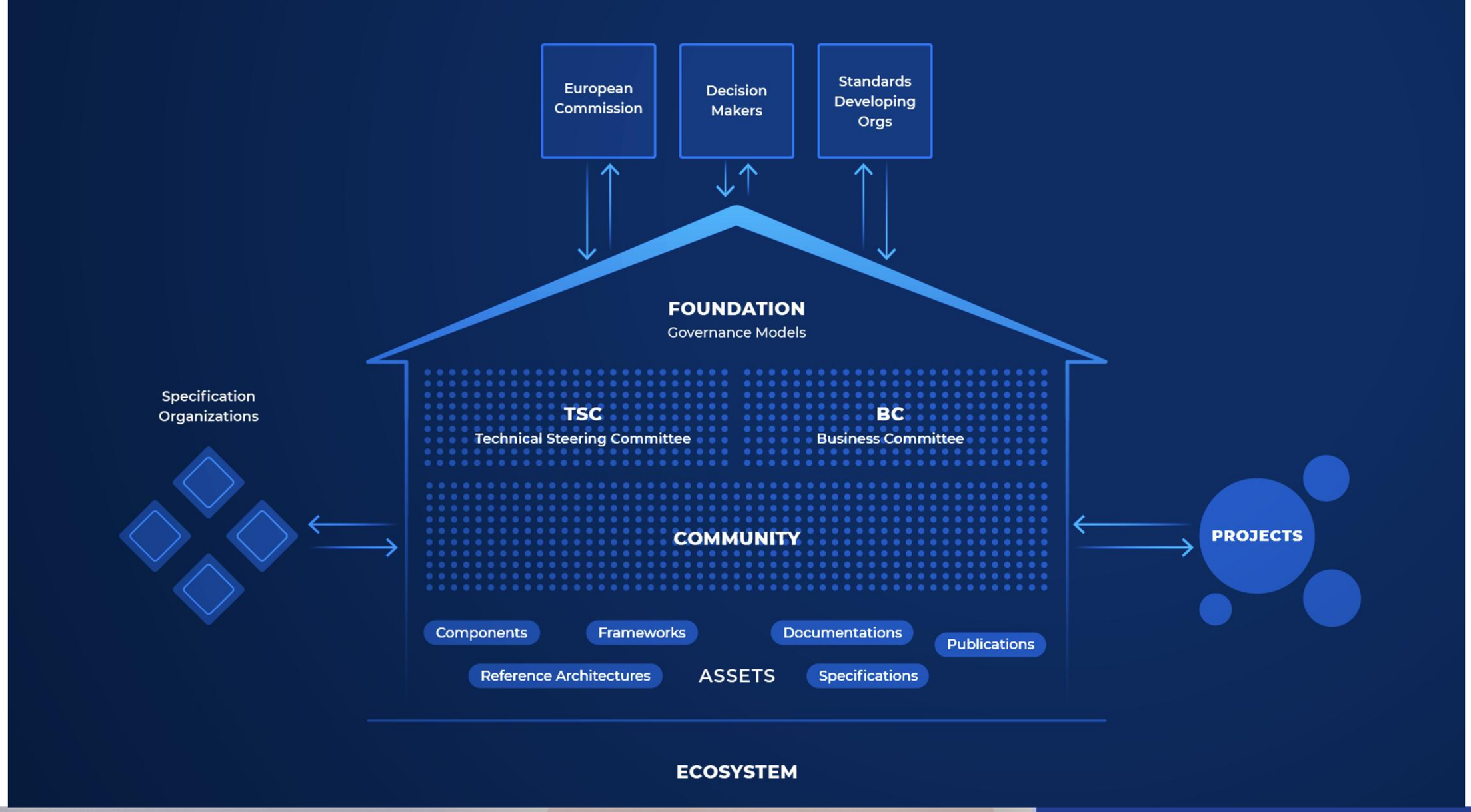
600+
Developers contributing
to FIWARE

46
FIWARE
iHubs

150+
Members'
Organizations

500+
Individual
Members

10+
Global
Partnerships



Trusted Data Exchange

Elements of Trusted Data Exchange

- Data Ownership
- Data Soverignity
- Consent
- Provenance & Leniage
- Auditability & Traceability
- Trust Frameworks
- Security
- Identity & Access Management
- Interoperability

Enabling Data Exchange with Open Standards & Specifications

Trust Framework & Identity Management in Data Spaces

- Trust Framework Requirements:
  - Legal identity verification
  - Compliance with participation rules
  - Trustworthiness of credential issuers
- Decentralized IAM (Identity & Access Management):
  - Handles authentication & usage policy enforcement
  - Compatible with:
    - Gaia-X Digital Clearing Houses
    - EU DI Wallet Architecture, EBSI
    - Process of making compatible with vLEI
- W3C/OID4VC Standards-Based Framework:
  - Decentralized Identifiers (DID), Verifiable Credentials (VC)
  - Protocols: OID4VCI, OID4VP, SIOPv2
  - PEP-PDP-PIP & PRP/PAP model + ODRL for ABAC policy

Creating Value Through Interoperable Data Sharing

- Steps to Enable Data Value Creation:
  - Interoperable description of data, services, resources
  - Publication services to discover offerings
  - Contract negotiation: peer-to-peer or via marketplaces
- Verifiable Credentials:
  - Self-issued by providers linked to resource descriptions
  - Goal: align on specs across data space ecosystems
- Data Discovery & Integration:
  - Use DCAT v3 for catalogs (connectors or brokers)
  - TM Forum APIs support offerings & contract flows
  - Marketplace integration through DOME

Interoperability & Common Standards for Data Exchange

- Service Endpoint Clarity:
  - Data consumers should access services at known, predictable endpoints
  - Enables trustless interaction between unknown parties
- Interoperability Levels (ISO/IEC 21823-1):
  - Transport/syntactic: Common APIs
  - Semantic: Common data models/vocabularies
- Recommended Standards & Tools:
  - NGSI-LD: Digital twin data exchange
  - Dataspace Connector Protocols: Data control
  - Smart Data Models Initiative: Maps models to JSON, JSON-LD, etc.
  - Observability of data sharing to be addressed in future versions

THANK YOU FOR YOUR ATTENTION!

The EU-Japan Digital Week is an initiative under the EU-Japan Digital Partnership and is supported by the following projects and organisations

ASPIRE 先端国際共同研究推進事業
Adopting Sustainable Partnerships for Innovative Research Ecosystem

BDV BIG DATA VALUE ASSOCIATION

DATA SPACES SUPPORT CENTRE

INPACE
Indo-Pacific-European Hub for Digital Partnerships

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TAKING EUROPEAN INNOVATION GLOBAL

地経学研究所
Institute of Geoeconomics

公益財団法人 国際文化会館
International House of Japan

Japan Business Council in Europe

NEXUS FORUM.EU

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THE UNIVERSITY OF TOKYO

明治大学
MEIJI UNIVERSITY